

## **REMARKS**

By this Amendment, claims 1-9 are cancelled, and claims 10-18 are added. Thus, claims 10-18 are now active in the application. Reexamination and reconsideration of the application are respectfully requested.

The specification and abstract have been carefully reviewed and revised to correct grammatical and idiomatic errors in order to aid the Examiner in further consideration of the application. The amendments to the specification and abstract are incorporated in the attached substitute specification and abstract. No new matter has been added.

In paragraph 2 on page 2 of the Office Action, claim 7 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Specifically, the Examiner asserted that the limitation “the pH-values data” in line 4 of claim 7 lacked antecedent basis. New claim 16, which has been added in favor of cancelled claim 7, has been drafted in such a way so as to obviate this rejection. In particular, new claim 16 recites that the combination related data file of the memory includes pH-values data for each injection, and that the mixing order is determined in accordance with “the pH-values data”. Accordingly, the Applicants respectfully submit that new claim 16 is clearly definite and that it particularly points out and distinctly claims the subject matter which the Applicants regard as the invention.

In paragraph 5 on page 2 of the Office Action, claims 1, 3, 5-7 and 9 were rejected under 35 U.S.C. § 102(e) as being anticipated by Engleson et al. (U.S. 5,781,442). This rejection is believed to be moot in view of the cancellation of claims 1-9. Furthermore, the Applicants

respectfully submit that this rejection is inapplicable to new claims 10-18 for the following reasons.

The present invention provides an apparatus for supporting injection mixing work before injections are mixed in a medical facility. As discussed in detail below, this feature is presented in the claims at least in the recitation that the controller is operable to determine a mixing order of the injections. As described on page 1 of the specification, a plurality of injections are commonly dosed to a patient in a medical facility. Nurses, who commonly mix injections for patients, are inundated with an overabundance of information regarding proper mixing procedures for hundreds or thousands of medicaments. In addition to preventing the dosing of patients with physically harmful injection mixes, it is also imperative to ensure that the combination of certain medicaments (injections) do not create incompatibilities that can have deleterious effects. It is therefore an object of the present invention to provide an apparatus for supporting injection mixing work, before the injection mixing work is actually completed, which enables nurses or other medical facility personnel to accurately and safely mix medicaments within a host of variables that are unique to each medical patient and each medicament. For instance, as described in lines 12-17 on page 1 of the specification, it is necessary to select a proper injection and conduct injection production or mixing work in a proper order so as not cause an appearance alteration in the medicament such as turbidity, sedimentation, and/or a composition alteration of an injection caused by improperly combining medicaments which are not intended to be combined.

The present invention achieves this object by providing an apparatus for supporting injection mixing work before the injection mixing work is actually completed. The apparatus, as recited in new claim 10, comprises a memory operable to store data for supporting injection mixing work. The memory is operable to store a patient predictability data file for storing patient predictability data, which includes at least information corresponding to a patient's predictable treatment and/or reaction to various medicaments, an injection prescription data file for storing injection prescription data corresponding to the patient predictability data, and a combination related data file for storing combination related data corresponding to each injection of the injection prescription data. The apparatus of new claim 10 further comprises a display operable to display the data stored in the memory, and a controller which is operable to determine a mixing order of the injections contained in the injection prescription data in accordance with the combination related data and to display the mixing order on the display.

Engleson et al. provides a care management system in which the management of the administration of care for patients is automated. The care management system of Engleson et al. monitors ongoing administrations for progress and automatically updates records and provides alarms when necessary. That is, each patient in a medical facility is provided with a barcode label that is affixed to a patient's identification bracelet or a label on a medication container. By providing a network 5 of bedside CPUs 80 for reading a patient's data according the patients' unique barcode, the patient management system of Engleson et al. merely verifies that the right medication is being dispensed to the right patient in the right dosage at the prescribed time (see Column 2, lines 47-59, Column 6, lines 28-31). In other words, Engleson et al. merely provides a

patient management system to determine whether a proper administration or dosing of medicaments is conducted, and such dosage is monitored and checked by the network. Accordingly, Engleson et al. merely discloses a real-time verification that the proper medication and/or treatment is being provided to the proper patient.

Engleson et al., however, does not disclose, suggest or even contemplate a controller operable to determine a mixing order of injections contained in injection prescription data, as recited in new claim 10. Instead, Engleson et al. merely provides a system for ensuring that the proper medicine is delivered to the proper patient after the medicine is produced and obtained from a pharmacy or from a hospital medicine storeroom. Moreover, Engleson et al. does not disclose or suggest a combination related data file for storing combination related data corresponding to each injection of the injection prescription data, as recited in new claim 10. Therefore, despite the Examiner's assertion to the contrary, Engleson et al., in contrast to the present invention, does not disclose or suggest a combination data file corresponding to how a plurality of injections will react when combined with one another.

Accordingly, for failing to disclose a memory which is operable to store a patient predictability data file, an injection prescription data file, a combination related data file, and a controller which is operable to determine a mixing order of the injections contained in the injection prescription data in accordance with the combination related data and to display the mixing order on a display, Engleson et al. does not anticipate new claim 10. Furthermore, because Engleson et al. fails to disclose or suggest each and every limitation as recited in new

claim 10, the Applicants respectfully submit that Engleson et al. clearly does not anticipate new claims 11-18, which depend from new claim 10.

In paragraph 13 on page 4 of the Office Action, claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Engleson et al. in view of Merki et al. (U.S. 5,002,055). In addition, in paragraph 15 on page 5 of the Office Action, claims 4 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Engleson et al. in view of Mayaud (U.S. 5,845,255). These rejections are believed to be moot in view of the cancellation of claims 1-9. Furthermore, the Applicants respectfully submit that the collective teachings of Engleson et al., Merki et al., and Mayaud do not cure the deficiencies of Engleson et al. for failing to disclose or suggest a memory which is operable to store a patient predictability data file, an injection prescription data file, a combination related data file, and a controller which is operable to determine a mixing order of the injections contained in the injection prescription data in accordance with the combination related data and to display the determined mixing order on a display, as is recited in new claim 10.

Moreover, the Applicants respectfully submit that new claims 11, 13 and 17, which have been added in favor of cancelled claims 2, 4 and 8, are clearly patentable over any combination of Engleson et al., Merki et al., and Mayaud. In particular, Merki et al. discloses a gastric pH sensor 1 for intraluminally measuring the  $H^+$ -ion activity of gastric juices, which is clearly unrelated to determining the mixing order of injections based on the pH-values for each injection, as is recited in new claim 11. Therefore, the Applicants respectfully submit that neither Engleson et al. nor Merki et al., either individually or in combination, disclose or suggest a combination related data file of a memory for storing pH-values data for each injection, and a controller operable to

determine the mixing order of the injections contained in the injection prescription data in accordance with the pH-values data, as recited in new claim 11. Accordingly, new claim 11 is clearly patentable over Engleson et al. in view of Merki et al.

Mayaud discloses reviewing for contraindications of drugs and for special precautions, such as a patient's allergies, for a drug's use. However, Mayaud merely discloses a prescription management system for avoiding possible drug-to-drug interactions with other drugs that have been previously prescribed (see Column 31, lines 19-24 and 33-39). That is, Mayaud merely discloses a screening or reviewing system for avoiding possible unintended adverse outcomes between previously prescribed medicine and a possible new medicine that is to be prescribed to a patient. Mayaud, however, does not disclose or suggest an apparatus for supporting injection mixing work having a memory which is operable to store patient predictability data, injection prescription data corresponding to the patient predictability data, and combination related data corresponding to each injection of the injection prescription data, as recited in new claim 10. Furthermore, Mayaud does not disclose or suggest a controller which is operable to determine a mixing order of the injections contained in the injection prescription data in accordance with the combination related data and to display the determined mixing order on a display, as recited in new claim 10. Accordingly, for failing to disclose or suggest an apparatus for supporting injection mixing work and a controller which is operable to determine a mixing order of the injections contained in the injection prescription data in accordance with the combination related data, as recited in new claim 10, Mayaud also fails to disclose or suggest a controller operable to determine the mixing order of injections based on their incompatibility or lack thereof, as recited

in new claims 13 and 17. Accordingly, new claims 13 and 17 are clearly patentable over Engleson et al. in view of Mayaud.

Because of the clear distinctions discussed above, the Applicants respectfully submit that the collective teachings of Engleson et al., Merki et al., and Mayaud do not meet each and every limitation of new claims 10-18. Moreover, the Applicants respectfully submit that it would not have been obvious to a person having ordinary skill in the art to modify Engleson et al., Merki et al., and Mayaud or to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in new claims 10-18. Therefore, it is respectfully submitted that new claim 10, as well as new claims 11-18 which depend therefrom, are clearly allowable over the prior art of record.

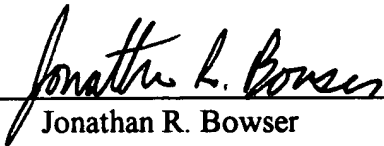
In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

A fee and a Request for a three-month Extension of Time are filed herewith pursuant to  
37 CFR § 1.136(a).

Respectfully submitted,

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